

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

SCHEDULE 13D

Under the Securities Exchange Act of 1934
(Amendment No. __)*

EnteroMedics Inc.
(Name of Issuer)

Common Stock
(Title of Class of Securities)

29365M 109
(CUSIP Number)

Bay City Capital Management LLC
750 Battery Street, Suite 400
San Francisco California 94111
(415) 676-3830

with a copy to:

David Sikes, Esq.
Heller Ehrman LLP
333 Bush Street
San Francisco, California 94104
(415) 772-6529

(Name, Address and Telephone Number of Person Authorized to Receive Notices and Communications)

November 15, 2007
(Date of Event which Requires Filing of this Statement)

If the filing person has previously filed a statement on Schedule 13G to report the acquisition that is the subject of this Schedule 13D, and is filing this schedule because of Rule 13d-1(e), 13d-1(f) or 13d-1(g), check the following box .

Note: Schedules filed in paper format shall include a signed original and five copies of the schedule, including all exhibits. See Rule 13d-7 for other parties to whom copies are to be sent.

* The remainder of this cover page shall be filled out for a reporting person's initial filing on this form with respect to the subject class of securities, and for any subsequent amendment containing information which would alter disclosures provided in a prior cover page.

The information required on the remainder of this cover page shall not be deemed to be "filed" for the purpose of Section 18 of the Securities Exchange Act of 1934 ("Act") or otherwise subject to the liabilities of that section of the Act but shall be subject to all other provisions of the Act (however, see the Notes).

SCHEDULE 13D

CUSIP No. 29365M 109

1 Name of Reporting Persons. I.R.S. Identification Nos. of above persons (entities only).

BAY CITY CAPITAL FUND IV, L.P.

2 Check the Appropriate Box if a Member of a Group (See Instructions)

(a)

(b)

3 SEC Use Only

4 Source of Funds (See Instructions)

WC

5 Check if Disclosure of Legal Proceedings Is Required Pursuant to Items 2(d) or 2(e)

6 Citizenship or Place of Organization

Delaware

7 Sole Voting Power

0

Number of
Shares

8 Shared Voting Power

Beneficially
Owned by

2,690,447

Each
Reporting

9 Sole Dispositive Power

Person

0

With

10 Shared Dispositive Power

2,690,447

11 Aggregate Amount Beneficially Owned by Each Reporting Person

2,690,447

12 Check if the Aggregate Amount in Row (11) Excludes Certain Shares (See Instructions)

13 Percent of Class Represented by Amount in Row (11)

16.5%

14 Type of Reporting Person (See Instructions)

PN

SCHEDULE 13D

CUSIP No. 29365M 109

1 Name of Reporting Persons. I.R.S. Identification Nos. of above persons (entities only).

BAY CITY CAPITAL FUND IV CO-INVESTMENT FUND, L.P.

2 Check the Appropriate Box if a Member of a Group (See Instructions)

(a)

(b)

3 SEC Use Only

4 Source of Funds (See Instructions)

WC

5 Check if Disclosure of Legal Proceedings Is Required Pursuant to Items 2(d) or 2(e)

6 Citizenship or Place of Organization

Delaware

7 Sole Voting Power

0

Number of
Shares
Beneficially
Owned by

8 Shared Voting Power

2,690,447

Each
Reporting
Person

9 Sole Dispositive Power

0

With

10 Shared Dispositive Power

2,690,447

11 Aggregate Amount Beneficially Owned by Each Reporting Person

2,690,447

12 Check if the Aggregate Amount in Row (11) Excludes Certain Shares (See Instructions)

13 Percent of Class Represented by Amount in Row (11)

16.5%

14 Type of Reporting Person (See Instructions)

PN

SCHEDULE 13D

CUSIP No. 29365M 109

1 Name of Reporting Persons. I.R.S. Identification Nos. of above persons (entities only).

BAY CITY CAPITAL MANAGEMENT IV LLC

2 Check the Appropriate Box if a Member of a Group (See Instructions)

(a)

(b)

3 SEC Use Only

4 Source of Funds (See Instructions)

AF

5 Check if Disclosure of Legal Proceedings Is Required Pursuant to Items 2(d) or 2(e)

6 Citizenship or Place of Organization

Delaware

7 Sole Voting Power

Number of Shares 2,690,447

Beneficially Owned by 8 Shared Voting Power

Each Reporting Person 9 Sole Dispositive Power

2,690,447

With 10 Shared Dispositive Power

11 Aggregate Amount Beneficially Owned by Each Reporting Person

2,690,447

12 Check if the Aggregate Amount in Row (11) Excludes Certain Shares (See Instructions)

13 Percent of Class Represented by Amount in Row (11)

16.5%

14 Type of Reporting Person (See Instructions)

OO

SCHEDULE 13D

CUSIP No. 29365M 109

1 Name of Reporting Persons. I.R.S. Identification Nos. of above persons (entities only).

BAY CITY CAPITAL LLC

2 Check the Appropriate Box if a Member of a Group (See Instructions)

(a)

(b)

3 SEC Use Only

4 Source of Funds (See Instructions)

AF

5 Check if Disclosure of Legal Proceedings Is Required Pursuant to Items 2(d) or 2(e)

6 Citizenship or Place of Organization

Delaware

7 Sole Voting Power

Number of Shares 2,690,447

Beneficially Owned by 8 Shared Voting Power

Each Reporting Person 9 Sole Dispositive Power

2,690,447

With 10 Shared Dispositive Power

11 Aggregate Amount Beneficially Owned by Each Reporting Person

2,690,447

12 Check if the Aggregate Amount in Row (11) Excludes Certain Shares (See Instructions)

13 Percent of Class Represented by Amount in Row (11)

16.5%

14 Type of Reporting Person (See Instructions)

OO

SCHEDULE 13D

Introduction

Bay City Capital LLC, a Delaware limited liability company (“BCC”), hereby files this Statement on Schedule 13D (the “Statement”) on behalf of the Reporting Persons identified in Item 2 of the Statement pursuant to the Agreement With Respect To Schedule 13D attached to the Statement as Exhibit 7.1.

BCC is the manager of Bay City Capital Management IV, LLC (“Management IV”), which is the general partner of Bay City Capital Fund IV, L.P., a Delaware limited partnership (“Fund IV”), and Bay City Capital Fund IV Co-Investment Fund, L.P., a Delaware limited partnership (“Co-Investment IV”). BCC is also an advisor to Fund IV and Co-Investment IV.

Item 1 - Security and Issuer

(a) This Statement relates to the common stock, par value \$0.01 per share, of EnteroMedics Inc., a Delaware corporation (the “Issuer”).

(b) The principal executive offices of the Issuer are located at 2800 Patton Road, St. Paul, Minnesota 55113.

Item 2 - Identity and Background

This Statement is filed on behalf of BCC, Management IV, Fund IV and Co-Investment IV. BCC, Management IV, Fund IV and Co-Investment IV are each referred to herein as a “Reporting Person” and are collectively referred to herein as the “Reporting Persons.”

The principal executive offices of the Reporting Persons are located at 750 Battery Street, Suite 400, San Francisco, California, 94111.

Fund IV and Co-Investment IV are Delaware limited partnerships, the principal business of which is making investments in life science companies. Fund IV and Co-Investment IV are contractually obligated under their respective limited partnership agreements to invest and divest at substantially the same time and under substantially similar terms. Consequently, Fund IV and Co-Investment IV constitute a “group” for purposes of Section 13(d) under the Securities Exchange Act of 1934 (the “Exchange Act”).

Management IV is a Delaware limited liability company, and its principal business is to serve as the general partner of Fund IV, Co-Investment IV and other pooled investment vehicles formed to invest in parallel with Fund IV and Co-Investment IV.

BCC is a Delaware limited liability company. The principal business of BCC is to serve as an advisor to life science investors, principally those investment funds sponsored by it or its owners, and to serve as a member and the manager of the general partners of such funds.

During the last five years, none of the Reporting Persons, nor any of their individual managers or executive officers, has been convicted in a criminal proceeding (excluding traffic violations or similar misdemeanors) nor have any of such persons been a party to a civil proceeding of a judicial or administrative body of competent jurisdiction as a result of which such person was or is subject to a judgment, decree or final order enjoining future violations of, or prohibiting or mandating activities subject to, Federal or State securities laws or finding any violation with respect to such laws.

In accordance with the provisions of General Instruction C to Schedule 13D, information concerning the members of BCC and Management IV are listed on Schedule 1 hereto and is incorporated by this reference.

Item 3 - Source and Amount of Funds or Other Consideration

Fund IV and Co-Investment IV, prior to the initial public offering of the Issuer (the "IPO"), acquired convertible stock and notes of the Issuer which, at the IPO, converted into 2,260,501 shares of common stock of the Issuer and immediately exercisable warrants to purchase 54,946 shares of common stock of the Issuer.

Fund IV and Co-Investment IV purchased an aggregate of 375,000 shares of common stock of the Issuer (more than 2% of the common stock of the Issuer) in the IPO.

The funds used by Fund IV and Co-Investment IV to pay the cash purchase price of their stock of the Issuer were obtained from capital contributions from the partners of Fund IV and Co-Investment IV pursuant to pre-existing capital commitments under the terms of the respective limited partnership agreements of Fund IV and Co-Investment IV.

Item 4 - Purpose of Transaction

The purpose of the transactions were to acquire the shares and warrants for investment purposes with the aim of increasing the value of the investment and the Issuer.

Subject to applicable legal requirements, one or more of the Reporting Persons may purchase additional securities of the Issuer from time to time in open market or private transactions, depending on their evaluation of the Issuer's business, prospects and financial condition, the market for the Issuer's securities, other developments concerning the Issuer, the reaction of the Issuer to the Reporting Persons' ownership of the Issuer's securities, other opportunities available to the Reporting Persons, and general economic, money market and stock market conditions. In addition, depending upon the factors referred to above, the Reporting Persons may dispose of all or a portion of their securities of the Issuer at any time. Each of the Reporting Persons reserves the right to increase or decrease its holdings on such terms and at such times as each may decide.

Other than as described above in this Item 4, none of the Reporting Persons have any plan or proposal relating to or that would result in: (a) the acquisition by any person of additional securities of the Issuer or the disposition of securities of the Issuer; (b) an extraordinary corporate transaction, such as a merger, reorganization or liquidation, involving the Issuer or any of its subsidiaries; (c) a sale or transfer of a material amount of assets of the Issuer or any of its subsidiaries; (d) any change in the Board of Directors or management of the Issuer, including any plans or proposals to change the number or terms of directors

or to fill any existing vacancies on the Board of Directors of the Issuer; (e) any material change in the present capitalization or dividend policy of the Issuer; (f) any other material change in the Issuer's business or corporate structure; (g) any changes in the Issuer's charter, by-laws or instruments corresponding thereto or other actions which may impede the acquisition of control of the Issuer by any person; (h) a class of securities of the Issuer being delisted from a national securities exchange or ceasing to be authorized to be quoted in an inter-dealer quotation system of a registered national securities association; (i) a class of equity securities of the Issuer becoming eligible for termination of registration pursuant to Section 12(g)(4) of the Exchange Act; or (j) any action similar to those enumerated above.

Carl Goldfischer, a Managing Director of BCC and a member of Management IV, is a director of the Issuer.

Item 5 - Interest in Securities of the Issuer

Reporting Person	Shares Underlying Warrants Held Directly	Shares Held Directly	Sole Voting Power	Shared Voting Power	Sole Dispositive Power	Shared Dispositive Power	Beneficial Ownership(1)	Percentage Of Class(2)
Fund IV	53,786	2,579,893	0	2,690,447	0	2,690,447	2,690,447	16.5%
Co-Investment IV	1,160	55,608	0	2,690,447	0	2,690,447	2,690,447	16.5%
Management IV(3)	0	0	2,690,447	0	2,690,447	0	2,690,447	16.5%
BCC(4)	0	0	2,690,447	0	2,690,447	0	2,690,447	16.5%

- (1) Fund IV and Co-Investment IV constitute a "group" under Section 13(d) of the Exchange Act and consequently are deemed to have beneficial ownership of all shares held by members of the group.
- (2) This percentage is calculated based upon 16,364,059 shares of the Issuer's common stock outstanding as computed in accordance with Rule 13d-3(d)(i) promulgated under the Securities Exchange Act of 1934, which is the sum of: (i) 16,309,113 shares of the Issuer's common stock outstanding as of November 15, 2007, as set forth on the Issuer's Form S-1 registration statement and (ii) 54,946 shares issuable upon the exercise of warrants held by Fund IV and Co-Investment IV.
- (3) Management IV holds no shares of common stock or warrants directly. Management IV is deemed to have beneficial ownership of common stock and warrants owned by Fund IV and Co-Investment IV due to its role as general partner of such funds. Investment and voting decisions by Management IV are exercised by BCC as manager.
- (4) BCC holds no shares of common stock or warrants directly. Due to its role as manager of Management IV, BCC is deemed to have beneficial ownership of common stock and warrants deemed to be beneficially owned by Management IV.

The information required by Item 5 with respect to persons with whom voting or dispositive power is shared is set forth in Items 2 and 3.

To the best knowledge of the Reporting Persons, no person described in this Item 5 has effected any transaction in the common stock of the Issuer during the past 60 days other than as described in Item 3.

To the best knowledge of the Reporting Persons, no person other than the Reporting Persons has the right to receive or the power to direct the receipt of dividends from, or the proceeds from the sale of, the common stock of the Issuer.

Item 6 - Contracts, Arrangements, Understandings or Relationships with Respect to Securities of the Issuer

The information provided and incorporated by reference in Items 3, 4 and 5 is hereby incorporated by reference.

Other than as described in this Schedule 13D, to the best of the Reporting Persons' knowledge, there are no other contracts, arrangements, understandings or relationships (legal or otherwise) among the persons named in Item 2 and between such persons and any person with respect to any securities of the Issuer.

Item 7 - Material to be Filed as Exhibits

A. Agreement regarding filing of joint Schedule 13D.

SCHEDULE 13D

Signature

After reasonable inquiry and to the best of my knowledge and belief, I certify that the information set forth in this statement is true, complete and correct.

Date: November 21, 2007

/s/ Carl Goldfischer

Carl Goldfischer, Managing Director
Bay City Capital LLC

for itself, for and on behalf of Bay City Capital Management IV LLC in its capacity as manager thereof, and for and on behalf of Bay City Capital Fund IV, L.P. and Bay City Capital Fund IV Co-Investment Fund, L.P. in its capacity as manager of Bay City Capital Management IV LLC, the general partner of Fund IV and Co-Investment IV

SCHEDULE 1

Members of Management IV

Bay City Capital LLC
750 Battery Street, Suite 400
San Francisco, CA 94111

Principal Occupation: Serving as investment advisor to pooled investment vehicles that it sponsors and as the manager of the general partners of such pools.
State of Organization: Delaware

Fred Craves
c/o Bay City Capital LLC
750 Battery Street, Suite 400
San Francisco, CA 94111
Principal Occupation: Chairman and Managing Director of Bay City Capital LLC
Citizenship: U.S.A.

Carl Goldfischer
c/o Bay City Capital LLC
750 Battery Street, Suite 400
San Francisco, CA 94111
Principal Occupation: Managing Director of Bay City Capital LLC
Citizenship: U.S.A.

BF4 GP Investors, L.L.C.
71 South Wacker Drive
Chicago, IL 60606
Principal Business: Hold membership interest in Bay City Capital Management IV LLC
State of Organization: Delaware

Members of BCC

PCP-BCC Acquisition, LLC
71 South Wacker Drive
Chicago, IL 60606
Principal Business: Hold membership interest in Bay City Capital LLC
State of Organization: Delaware

Fred Craves
c/o Bay City Capital LLC
750 Battery Street, Suite 400
San Francisco, CA 94111
Principal Occupation: Chairman and Managing Director of Bay City Capital LLC
Citizenship: U.S.A.

Carl Goldfischer
c/o Bay City Capital LLC
750 Battery Street, Suite 400
San Francisco, CA 94111
Principal Occupation: Managing Director of Bay City Capital LLC
Citizenship: U.S.A.

Sanford Zweifach
694 Sausalito Blvd
Sausalito, CA 94965
Principal Occupation: Managing Director of Reedland Capital Partners
Citizenship: U.S.A.

EXHIBIT INDEX

<u>Exhibit No.</u>	<u>Description</u>	<u>Page</u>
7.1	Agreement regarding filing of joint Schedule 13D.	

AGREEMENT WITH RESPECT TO SCHEDULE 13D

Each of Bay City Capital LLC, Bay City Capital Management IV LLC, Bay City Capital Fund IV, L.P. and Bay City Capital Fund IV Co-Investment Fund, L.P. hereby express its agreement that the attached Schedule 13D (and any amendments thereto) relating to the common stock of EnteroMedics Inc. is filed on behalf of each of them.

Date: November 21, 2007

/s/ Carl Goldfischer

Carl Goldfischer, Managing Director

Bay City Capital LLC

for itself, for and on behalf of Bay City Capital Management IV LLC in its capacity as manager thereof, and for and on behalf of Bay City Capital Fund IV, L.P. and Bay City Capital Fund IV Co-Investment Fund, L.P. in its capacity as manager of Bay City Capital Management IV LLC, the general partner of Fund IV and Co-Investment IV